Dow AgroSciences

Blackhawk

Naturally® Insect Control

For control of lepidopterous larvae (worms or caterpillars), leafminers, and thrips.

Active Ingredient:
  spinosad
  (a mixture of spinosyn A and spinosyn D)..........................36%
Other Ingredients......................................................64%
Total .................................................................100%

Contains 36% active ingredient on a weight basis.
U.S. Patent No. 5,362,634 and 5,496,931

Keep Out of Reach of Children

Agricultural Use Requirements
Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. Refer to the label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

For additional Precautionary Statements, Storage and Disposal and other use information see inside this label.

Notice: Read the entire label. Use only according to label directions. Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies at end of label booklet. If terms are unacceptable, return at once unopened.

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994.

EPA Reg. No. 62719-523  
EPA Est. 67545-AZ-001-  
900-015839 / 00332211

©™Trademark of Dow AgroSciences LLC
Produced for
Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, IN 46268

Net Weight 64 oz
Precautionary Statements

Personal Protective Equipment (PPE)
Applicators and other handlers must wear:
- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves (such as natural rubber, selection category A)

Follow manufacturer’s instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations
Users should:
- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Environmental Hazards
This product is toxic to bees exposed to treatment for 3 hours following treatment. Do not apply this pesticide to blooming, pollen-shedding or nectar-producing parts of plants if bees may forage on the plants during this time period. This product is toxic to aquatic invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

Directions for Use
It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all Directions for Use carefully before applying.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

Agricultural Use Requirements
Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), restricted entry interval, and notification to workers (as applicable). The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

For early entry into treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, wear:
- Coveralls
- Chemical-resistant gloves
- Shoes plus socks

Non-Agricultural Use Requirements
The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for Agricultural Pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Entry Restrictions for Non-WPS Uses: Do not enter or allow others to enter the treated area until sprays have dried.

Storage and Disposal
Do not contaminate water, food or feed by storage and disposal.

Pesticide Storage: Store in original container only.

Pesticide Disposal: Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.
Storage and Disposal (Cont.)

Container Handling: Nonrefillable container. Do not reuse or refill this container. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Offer for recycling if available.

General Information

Blackhawk™ is a Naturalyte® insect control product for control of many foliage feeding pests including lepidopterous larvae (worms or caterpillars), Colorado potato beetles, leafminers and thrips infesting labeled crops. This product’s active ingredient, spinosad, is biologically derived from the fermentation of Saccharopolyspora spinosa, a naturally occurring soil organism. Blackhawk should be mixed with water and applied as a foliar spray with aerial or ground equipment equipped for conventional insecticide spraying.

General Use Precautions

**Integrated Pest Management (IPM) Programs**

Blackhawk is recommended for IPM programs in labeled crops. Blackhawk should be applied when field scouting indicates target pest densities have reached the economic threshold, i.e., the point at which the insect population must be reduced to avoid economic losses beyond the cost of control. Other than reducing the target pest species as a food source, Blackhawk does not have a significant impact on certain parasitic insects or the natural predaceous arthropod complex in treated crops, including big-eyed bugs, ladybird beetles, flower bugs, lacewings, minute pirate bugs, damsel bugs, assassin bugs, predatory mites or spiders. The feeding activities of these beneficials will aid in natural control of other insects and reduce the likelihood of secondary pest outbreaks. If Blackhawk is tank mixed with any insecticide that reduces its selectivity in preserving beneficial predatory insects, the full benefit of Blackhawk in an IPM program may be reduced.

**Insecticide Resistance Management (IRM)**

Blackhawk contains spinosad, a Group 5 insecticide. Insect/mite biotypes with acquired resistance to Group 5 insecticides may eventually dominate the insect/mite population if Group 5 insecticides are used repeatedly in the same field or area, or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by Blackhawk or other Group 5 insecticides. Currently, only spinetoram and spinosad active ingredients are classified as Group 5 insecticides. These two insecticide active ingredients share a common mode of action and must not be rotated with each other for control of pests listed on this label. Spinetoram and spinosad may be rotated with all other labeled insecticide active ingredients.

To delay development of insecticide resistance, the following practices are recommended:

- Carefully follow the specific label guidelines within the use directions sections of this label, especially in regard to IRM recommendations.
- Avoid use of the same active ingredient or mode of action (same insecticide group) on consecutive generations of insects. However, multiple applications to reduce a single generation are acceptable. Treat the next generation with a different active ingredient that has a different mode of action or use no treatment for the next generation.
- Avoid using less than labeled rates of any insecticide when applied alone or in tank mixtures.
- Applications should be targeted against early insect developmental stages whenever possible.
- Base insecticide use on comprehensive IPM programs including crop rotations.
- Monitor treated insect populations in the field for loss of effectiveness.
- Contact your local extension specialist, certified crop advisor, and/or manufacturer for insecticide resistance management and/or IPM recommendations for the specific site and resistant pest problems.
- For further information or to report suspected resistance, contact your local Dow AgroSciences representative or by calling 800-258-3033.

**Mixing**

**Application Rate Reference Table**

<table>
<thead>
<tr>
<th>Application Rate of Blackhawk (oz/acre)</th>
<th>Active Ingredient Equivalent (lb ai/acre)</th>
<th>Acres per Pound of Blackhawk</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.8</td>
<td>0.018</td>
<td>20.0</td>
</tr>
<tr>
<td>1.1</td>
<td>0.025</td>
<td>14.5</td>
</tr>
<tr>
<td>1.7</td>
<td>0.038</td>
<td>9.4</td>
</tr>
<tr>
<td>2.2</td>
<td>0.050</td>
<td>7.3</td>
</tr>
<tr>
<td>2.8</td>
<td>0.062</td>
<td>5.7</td>
</tr>
<tr>
<td>3.3</td>
<td>0.075</td>
<td>4.8</td>
</tr>
<tr>
<td>4.4</td>
<td>0.100</td>
<td>3.6</td>
</tr>
<tr>
<td>5.5</td>
<td>0.125</td>
<td>2.9</td>
</tr>
</tbody>
</table>

**Mixing Order for Tank Mixes:** Fill the spray tank with water to 1/4 to 1/3 of the required spray volume. Start agitation. Add different formulation types in the order indicated below, allowing time for complete dispersion and mixing after addition of each product. Allow extra dispersion and mixing time for dry flowable products.

Add different formulation types in the following order:
1. Blackhawk and other water dispersible granules
2. Wettable powders
3. Emulsifiable concentrates and water-based solutions
4. Spray adjuvants, surfactants and oils
5. Foliar fertilizers

Finish filling the spray tank. Maintain continuous agitation during mixing, final filling and throughout application. If spraying and agitation must be stopped before the spray tank is empty, the materials may settle to the bottom. Settled materials must be resuspended before spraying is resumed. A sparger agitator is particularly useful for this purpose.

**Premixing:** Dry and flowable formulations may be premixed with water (slurred) and added to the spray tank through a 20 to 35 mesh screen. This procedure assures good initial dispersion of these formulation types.

**Spray Tank pH:** A spray tank pH between 6.0 and 9.0 is suggested to achieve maximum performance of Blackhawk. If the water source is outside of this pH range, or tank mixing other pesticides, adjuvants, or foliar nutrients will cause the pH to fall outside this range, consider adjusting the spray tank pH to be between 6.0 and 9.0 before adding Blackhawk. To do this, add all other tank mix components first, then check the spray tank pH, adjust if desired, and then add Blackhawk. If you require additional information on how to adjust spray tank pH, contact your Dow AgroSciences representative.

**Use of Adjuvants:** Adjuvants may be used to improve the control of leafminers and thrips in situations where achieving uniform plant coverage is difficult (such as closed crop canopy or dense foliage), or penetration into waxy leaf surfaces is necessary for pest control.

- Use only adjuvant products labeled for agricultural use and follow the manufacturer’s label directions. A nominal concentration of 1 to 2 qt/100 gal (0.25 to 0.5% v/v) is generally sufficient.
• For leafminers and thrips, emulsified crop oils or methylated crop oil plus organosilicone combination products are recommended.
• When using adjuvants, always conduct a jar test to determine the compatibility of the various components in the mixture. Crop safety should be determined in a small area of the crop whenever there is a significant change in spray mixture ingredients or source of water for the spray mixture.
• Do not use diesel fuel or pure mineral oil.

Application
Do not apply Blackhawk in greenhouses or other enclosed structures used for growing crops.

Proper application techniques help ensure thorough spray coverage and correct dosage for optimum insect control. The following directions are provided for ground and aerial application of Blackhawk. Attention should be given to sprayer speed and calibration, wind speed, and foliar canopy to ensure adequate spray coverage.

Row Crop Application
Use calibrated power-operated ground spray equipment capable of providing uniform coverage of the target crop. Orient the boom and nozzles to obtain uniform crop coverage. A minimum of 5 to 10 gallons per acre should be utilized, increasing volume with crop size and/or pest pressure. Use hollow cone, twin jet flat fan nozzles or other insecticide atomizer suitable for insecticide spraying to provide a fine to coarse spray quality (per ASABE S-572, see nozzle catalogs). Under certain conditions, drop nozzles may be required to obtain complete coverage of plant surfaces. Follow manufacturer’s specifications for ideal nozzle spacing and spray pressure. Minimize boom height to optimize uniformity of coverage and maximize deposition (optimize on-target deposition) to reduce drift.

Aerial Application
Apply in a spray volume of 5 gallons or more per acre (10 gallons or more per acre for trees, vines or orchard crops). Nozzle configuration should provide a median to fine drop size per ASABE S-572 standard (see USDA-ARS or NAAA handbooks). Guidance for ASABE S-572 nozzle configuration can be found at the following web site: www.cpproductsinc.com. Boom length must be less than 75% of wing or 85% of rotor span and swath adjustment (offset) to compensate for crosswinds. Observe minimum safe application height (maximum 12 feet for ag canopies). Use GPS equipment, swath markers or flagging to ensure proper application to the target area. The boom nozzle configurations used should be patterned (e.g., at NAAA Fly-In) for both crosswind and near parallel winds. If application is made parallel to the wind direction, swath width should be adjusted downward. Use swath adjustment (offset) to compensate for crosswinds. Do not apply under completely calm wind conditions. It is best to apply when wind speed is between 2 to 10 mph. Under conditions of low humidity and high temperatures, adjust spray volume and droplet size upward to compensate for evaporation of spray droplets. Insect control by aerial application may be less than control by ground application because of reduced coverage.

Chemigation Application
Blackhawk may be applied through properly equipped chemigation systems for insect control in corn and potatoes. Follow use directions for these crops in the Uses section of this label. Do not apply Blackhawk by chemigation to other labeled crops except as specified in Dow AgroSciences supplemental labeling or product bulletins.

General Directions for Chemigation:
Blackhawk may be applied through drip or overhead sprinkler irrigation systems that will apply water uniformly, including center pivot, lateral move, end tow, sicle (wheel) roll, traveler, solid set, micro sprinkler, or hand move. Do not apply this product through any other type of irrigation system. Sprinkler systems that deliver a low coefficient of uniformity such as certain water drive units are not recommended.

For continuously moving systems, the mixture containing Blackhawk must be injected continuously and uniformly into the irrigation water line as the sprinkler is moving. If continuously moving irrigation equipment is used, apply in no more than 0.25 inch of water. For irrigation systems that do not move during operation, apply in no more than 0.25 inch of irrigation immediately before the end of the irrigation cycle.

Preparation: The following use directions are to be followed when this product is applied through sprinkler irrigation systems. Thoroughly clean the chemigation system and tank of any fertilizer or chemical residues, and dispose of the residues according to state and federal laws. Flush the injection system with soap or a cleaning agent and water. Determine the amount of Blackhawk needed to cover the desired acreage. Mix according to instructions in the Mixing section above. Continually agitate the mixture during mixing and application.

Equipment Calibration: In order to calibrate the irrigation system and injector to apply the mixture
containing Blackhawk, determine the following:
1) Calculate the number of acres irrigated by the system; 2) Calculate the amount of product required and premix; 3) Determine the irrigation rate and determine the number of minutes for the system to cover the intended treatment area; 4) Calculate the total gallons of insecticide mixture needed to cover the desired acreage. Divide the total gallons of insecticide mixture needed by the number of minutes (minus time to flush out) to cover the treatment area. This value equals the gallons per minute output that the injector or eductor must deliver. Convert the gallons per minute to milliliters or ounces per minute if needed. Calibrate the injector system with the system in operation at the desired irrigation rate. It is suggested that the injection pump/system be calibrated at least twice before operation, and the system should be monitored during operation.

Operation: Start the water pump and sprinkler, and let the system achieve the desired pressure and speed before starting the injector. Check for leaks and uniformity and make repairs before any chemigation takes place. Start the injection system and calibrate according to manufacturer's recommendations. This procedure is necessary to deliver the desired rate per acre in a uniform manner. When the application is finished, allow the entire irrigation and injection system to be thoroughly flushed clean before stopping the system.

Precautions:
- Lack of effectiveness or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- If you have questions about calibration, contact state extension service specialists, equipment manufacturers or other experts.
- Do not connect an irrigation system used for pesticide application (including greenhouse systems) to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place with current certification. Specific local regulations may apply and must be followed.
- A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall operate the system and make necessary adjustments should the need arise and continuously monitor the injection.
- Do not apply when wind speed favors drift beyond the area intended for treatment. End guns must be turned off during the application if they irrigate non-target areas.

- Do not allow irrigation water to collect or run off and pose a hazard to livestock, wells, or adjoining crops.
- Do not enter treated area during the reentry interval specified in the Agricultural Use Requirements section of this label unless required PPE is worn.
- Do not apply through sprinkler systems that deliver a low coefficient of uniformity such as certain water drive units.

Specific Equipment Requirements:
- The system must contain an air gap, or approved back flow prevention device, or approved functional check valve, vacuum relief valve (including inspection port), and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow. Refer to the American Society of Agricultural Engineer’s Engineering Practice 409 for more information or state specific regulations.
- The pesticide injection line must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection chemical supply.
- A pesticide injection pump must also contain a functional interlock, e.g., mechanical or electrical, to shut off chemical supply when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection when the water pressure drops too low or water flow stops.
- Use of public water supply requires approval of a back flow prevention device or air gap (preferred) by both state and local authorities.
- Systems must use a metering pump, such as a positive displacement injection pump (or flow meter on eductor) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock. An electric powered pump must meet Section 675 for “Electrically Driven or Controlled Irrigation Machines” NEC 70.
- To insure uniform mixing of the insecticide into the water line, inject the mixture in the center of the pipe diameter or just ahead of an elbow or tee in the irrigation line so that the turbulence created at those points will assist in mixing. The injection point must be located after all back flow prevention devices on the water line.
- The tank holding the insecticide mixture should be free of rust, fertilizer, sediment, and foreign material, and equipped with an in-line strainer situated between the tank and the injection point.
Uses

Corn (Field Corn, Sweet Corn, Popcorn, and Corn Grown for Seed) and Teosinte

Pests and Application Rates:

<table>
<thead>
<tr>
<th>Pests</th>
<th>Blackhawk (oz/acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>European corn borer</td>
<td>1.1 – 3.3</td>
</tr>
<tr>
<td>fall armyworm</td>
<td></td>
</tr>
<tr>
<td>true armyworm</td>
<td></td>
</tr>
<tr>
<td>beet armyworm</td>
<td>2.2 – 3.3</td>
</tr>
<tr>
<td>corn earworm</td>
<td></td>
</tr>
<tr>
<td>southwestern corn borer</td>
<td></td>
</tr>
<tr>
<td>western bean cutworm</td>
<td></td>
</tr>
</tbody>
</table>

Specific Use Directions:

Application Timing: Scout for European corn borer and armyworms with enough regularity to monitor egg laying and egg hatch. Applications of Blackhawk should be timed to coincide with peak egg hatch of each generation. Frequent treatments may be necessary when the crop is growing rapidly, during silking or under heavy pest pressure. For corn earworm control, a 1- to 2-day re-treatment schedule may be necessary at silking. For control of all other pests, a 5- to 7-day re-treatment schedule may be necessary if the crop is growing rapidly or if there is heavy pest pressure.

Application Rate: Apply as a foliar spray at the rate indicated for target pest. Use a higher rate in the range for heavy infestations or advanced growth stages of target pests.

Spray Delivery: For control of first generation European corn borer and armyworms, apply broadcast or as a directed spray into the leaf whorls. For control of corn earworm, apply broadcast or direct spray to ear zone. Use sufficient spray volume and nozzle pressure to ensure thorough wetting of the silks.

Chemigation: Blackhawk may be applied to corn by chemigation at labeled rates. Refer to the Chemigation Application section for application guidelines for chemigation.

Restrictions:
Sweet Corn, Popcorn, Corn Grown for Seed

- Preharvest Interval: Do not apply within 1 day of grain harvest or within 3 days of forage or fodder harvest.

- Do not apply more than a total of 20 oz of Blackhawk (0.45 lb ai of spinosad) per acre per year.

Field Corn and Teosinte

- Preharvest Interval: Do not apply within 28 days of grain harvest or within 3 days of fodder or forage harvest.

- Do not apply more than a total of 8.3 oz of Blackhawk (0.188 lb ai of spinosad) per acre per year.

Cotton

Pests and Application Rates:

<table>
<thead>
<tr>
<th>Pests</th>
<th>Blackhawk (oz/acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>cotton bollworm (pre-bloom)</td>
<td>1.7 – 3.3</td>
</tr>
<tr>
<td>cotton leaf perforator</td>
<td></td>
</tr>
<tr>
<td>European corn borer</td>
<td></td>
</tr>
<tr>
<td>tobacco budworm</td>
<td></td>
</tr>
<tr>
<td>armyworms (including beet armyworm,</td>
<td>2.2 – 3.3</td>
</tr>
<tr>
<td>fall armyworm)</td>
<td></td>
</tr>
<tr>
<td>cotton bollworm (post-bloom)</td>
<td></td>
</tr>
<tr>
<td>leafminers</td>
<td></td>
</tr>
<tr>
<td>loopers (including soybean looper,</td>
<td></td>
</tr>
<tr>
<td>cabbage looper)</td>
<td></td>
</tr>
<tr>
<td>saltmarsh caterpillar thrips¹</td>
<td></td>
</tr>
</tbody>
</table>

¹Control of thrips may be improved by addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing.

Specific Use Directions:

Application Timing:
Tobacco Budworm and/or Cotton Bollworm: For the most effective control, fields should be scouted twice per week and Blackhawk applied when the majority of the population is within the time of blackhead egg stage to 1/8-inch larval length. The following table illustrates the size of worms in relation to age and stage of development (instar) as a guide to timing treatments for optimum control:

<table>
<thead>
<tr>
<th>Age (Days)</th>
<th>Average Size (Inches)</th>
<th>Instar¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hatch</td>
<td>1/16</td>
<td>1st</td>
</tr>
<tr>
<td>3</td>
<td>1/4</td>
<td>2nd</td>
</tr>
<tr>
<td>5</td>
<td>1/2</td>
<td>3rd</td>
</tr>
<tr>
<td>8</td>
<td>7/8</td>
<td>4th</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>5th</td>
</tr>
</tbody>
</table>

¹Note: A scouting schedule of only once per week is risky since hatching worms will have grown to
Cotton (Cont.)

3rd instar before the next scouting observation has determined the need to spray.

**Beet Armyworm:** Economic thresholds vary with local conditions and sampling methods. The following is an example of one such method: apply Blackhawk when field scouting reveals 3 or more occurrences of egg hatch or larval feeding per 100 feet of row.

**Loopers:** Economic thresholds vary with local conditions and sampling methods. The following is an example of one such method: apply Blackhawk when field scouting reveals 4 larvae per 1 foot of row or 25% defoliation.

**Application Rate:** Use a higher rate in the rate range and higher spray volume when one or more of the following is true: tobacco budworms or bollworms are more than 1/4 inch in length; target pest population is 2X above local threshold level; or foliage canopy is tall/dense and worms are present in the lower part of the canopy. Heavy infestations may require repeat applications, but follow resistance management guidelines.

**Resistance Management:** Do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your local Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area. For **tobacco budworm and/or cotton bollworm** where early season conservation of beneficial insects is practical, use Blackhawk to control the 1st and 3rd generations of tobacco budworm and/or cotton bollworm. Where conservation of beneficial insects is not as critical (for example, fields have received non-selective early season treatments for boll weevil or lygus bugs), use Blackhawk to control either the 2nd or 3rd generation of tobacco budworm and/or cotton bollworm.

**Restrictions:**
- **Preharvest Interval:** Do not apply within 28 days of harvest.
- **Minimum Treatment Interval:** Do not make applications less than 5 days apart for high rates of application.
- Do not apply more than a total of 20 oz of Blackhawk (0.45 lb ai of spinosad) per acre per growing season.

**Grass Forages, Grass Grown for Seed, Pastures, Rangeland and Sod Farms**

**Pests and Application Rates:**

<table>
<thead>
<tr>
<th>Pests</th>
<th>Blackhawk (oz/acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>beet armyworm</td>
<td>1.1 – 2.2</td>
</tr>
<tr>
<td>fall armyworm</td>
<td></td>
</tr>
<tr>
<td>sod webworms</td>
<td></td>
</tr>
<tr>
<td>southern armyworm</td>
<td></td>
</tr>
<tr>
<td>true armyworm</td>
<td></td>
</tr>
<tr>
<td>other lepidopterous species</td>
<td></td>
</tr>
</tbody>
</table>

**Specific Use Directions:**

**Application Timing:** Scout at least weekly and consider the impact of both pests and beneficials. Treat when economic thresholds are exceeded, targeting eggs at hatch or small larvae. Heavy infestations may require repeat applications, but follow resistance management guidelines on the product label. Consult your Dow AgroSciences representative, extension service specialist, certified crop advisor or your state agricultural experiment station for any additional recommendations applicable to your area.

**Application Rate:** Use a higher rate in the rate range for heavy infestations or advanced growth stages of target pests.

**Resistance Management:** Do not apply more than 3 times in any 21-day period. Whenever Blackhawk is applied up to 3 times in succession, this should be followed by no use of Blackhawk for a 21-day period or rotation to another insecticide class. Do not make more than 6 applications per season.

**Restrictions:**
- **Preharvest Interval:** Do not apply within 3 days of harvest for hay or fodder. There is no preharvest interval for forage.
- Do not apply more than a total of 8.3 oz of Blackhawk (0.188 lb ai spinosad) per acre per season.
- Do not allow cattle to graze from treated area until spray has dried.
Legume Vegetables (Succulent and Dried Beans and Peas)
Legume vegetables including adzuki bean, blackeyed pea, chickpea, cowpea, crowder pea, edible-pod pea, English pea, fava bean, field bean, field pea, garbanzo bean, garden pea, green pea, kidney bean, lentil, lima bean, lupins, mungbean, navy bean, pigeon pea, pinto bean, runner bean, snap bean, snow pea, sugar snap pea, tepary bean, wax bean, yardlong bean

Pests and Application Rates:

<table>
<thead>
<tr>
<th>Pests</th>
<th>Blackhawk (oz/acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>European corn borer (eggs and larvae)</td>
<td>1.7 – 3.3</td>
</tr>
<tr>
<td>armyworms</td>
<td>2.2 – 3.3</td>
</tr>
<tr>
<td>corn earworm loopers</td>
<td></td>
</tr>
<tr>
<td>leafminers¹</td>
<td>2.5 – 3.3</td>
</tr>
<tr>
<td>thrips¹</td>
<td></td>
</tr>
</tbody>
</table>

¹Control of leafminers and thrips may be improved by addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing.

Specific Use Directions:

Application Timing: For determining when to treat, scout with enough regularity to monitor the population size of each of the labeled pests. Heavy infestations may require repeat applications, but make no more than 6 applications per crop. Treat when pests appear, targeting eggs at hatch or small larvae. For European corn borer, initiate when moth flights first appear and use the lower rate of the rate range to control eggs and larvae every 3 days before they enter the plant. Consult your Dow AgroSciences representative, extension service specialist, certified crop advisor or your state agricultural experiment station for any additional recommendations for your area.

Application Rate: Apply as a foliar spray at the rate indicated for target pest. Use a higher rate in the rate range for heavy infestations or advanced growth stages of target pests.

Resistance Management: Do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application.

Consult your local Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:
Succulent Beans and Peas:
- Preharvest Interval: Do not apply within 3 days of harvest.
- Do not apply more than a total of 20 oz of Blackhawk (0.45 lb ai of spinosad) per acre per season.

Dried Beans and Peas:
- Preharvest Interval: Do not apply within 28 days of harvest.
- Do not apply more than a total of 8.3 oz of Blackhawk (0.188 lb ai of spinosad) per acre per season.
- Do not feed treated forage or hay to meat or dairy animals.

Peanut
(Not for use in California)

Pests and Application Rates:

<table>
<thead>
<tr>
<th>Pests</th>
<th>Blackhawk (oz/acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>armyworms, including:</td>
<td>1.7 – 3.3</td>
</tr>
<tr>
<td>beet armyworm</td>
<td></td>
</tr>
<tr>
<td>fall armyworm</td>
<td></td>
</tr>
<tr>
<td>true armyworm</td>
<td></td>
</tr>
<tr>
<td>yellowstriped armyworm</td>
<td></td>
</tr>
<tr>
<td>cabbage looper</td>
<td></td>
</tr>
<tr>
<td>corn earworm</td>
<td></td>
</tr>
<tr>
<td>European corn borer</td>
<td></td>
</tr>
<tr>
<td>green cloverleaf worm</td>
<td></td>
</tr>
<tr>
<td>red-necked peanut worm</td>
<td></td>
</tr>
<tr>
<td>saltmarsh caterpillar</td>
<td></td>
</tr>
<tr>
<td>soybean looper</td>
<td></td>
</tr>
<tr>
<td>velvetbean caterpillar</td>
<td></td>
</tr>
</tbody>
</table>

Specific Use Directions:

Application Timing: Regularly monitor the population size of each of the labeled pests. Treat when pests appear, targeting eggs at hatch or small larvae. Consult your Dow AgroSciences representative, extension specialist, certified crop advisor or your state agricultural experiment station for any additional local use recommendations for your area.

Application Rate: Use a higher rate in the rate range for larger larvae or moderate to severe infestations and/or larger plant volume.
Peanut (Cont.)

Resistance Management: Do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your local Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:

- **Preharvest Interval**: Do not apply within 3 days of nut harvest or within 14 days of forage.
- **Minimum Treatment Interval**: Do not make applications less than 7 days apart.
- Do not apply more than a total of 12.4 oz of Blackhawk (0.28 lb ai of spinosad) per acre per crop or make more than 3 applications per calendar year.
- Do not allow grazing of crop residue or harvest of crop residue for hay until 14 days after the last application.

Potatoes, Tuberous and Corm Vegetables, and Artichoke

Potatoes and tuberous and corm vegetables including cassava, chayote root, Chinese artichoke, ginger, Jerusalem artichoke, potatoes, sweet potatoes, turmeric, yams

Pests and Application Rates:

<table>
<thead>
<tr>
<th>Pests</th>
<th>Blackhawk (oz/acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colorado potato beetle</td>
<td>1.7 – 3.3</td>
</tr>
<tr>
<td>European corn borer</td>
<td></td>
</tr>
<tr>
<td>armyworms</td>
<td>2.5 – 3.3</td>
</tr>
<tr>
<td>artichoke plume moth</td>
<td></td>
</tr>
<tr>
<td>dipteran leafminers (<em>Liriomyza</em>)</td>
<td></td>
</tr>
<tr>
<td>loopers</td>
<td></td>
</tr>
<tr>
<td>thrips</td>
<td></td>
</tr>
</tbody>
</table>

1Control of leafminers and thrips may be improved by addition of an adjuvant to the spray mixture. See Use of Adjuvants section under Mixing.

Specific Use Directions:

Application Timing: Treat when pests appear, targeting eggs at hatch or small larvae. When plants are growing rapidly, repeat applications may be necessary to protect new foliage. Consult your Dow AgroSciences representative, extension service specialist, certified crop advisor or your state agricultural experiment station for any additional local use recommendations for your area.

Application Rate: Apply as a foliar spray at the rate indicated for target pest. Use a higher rate in the rate range for heavy infestations or advanced growth stages of target pests. Heavy infestations may require repeat applications but follow resistance management guidelines.

Chemigation: Blackhawk may be applied to potatoes by chemigation at labeled rates. Refer to the Chemigation Application section for application guidelines for chemigation.

Resistance Management: Do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your local Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Do not apply Blackhawk to consecutive generations of Colorado potato beetle and do not make more than 2 applications per single generation of Colorado potato beetle.

Restrictions:

- **Preharvest Intervals:**
  - **Artichoke**: Do not apply within 2 days of harvest.
  - **All others**: Do not apply within 7 days of harvest.
- **Minimum Treatment Interval**: Do not make applications less than 7 days apart or apply more than 4 times per crop.
- Do not apply more than a total of 14.4 oz (16.7 oz for artichoke) of Blackhawk (0.33 lb ai of spinosad) per crop.

Small Cereal Grains and Grain Amaranth

Small cereal grains including barley, buckwheat, milo, oats, pearl millet, proso millet, rye, sorghum, triticale, wheat

Pests and Application Rates:

<table>
<thead>
<tr>
<th>Pests</th>
<th>Blackhawk (oz/acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>cereal leaf beetle</td>
<td>1.1 – 3.3</td>
</tr>
</tbody>
</table>
Small Cereal Grains and Grain Amaranth (Cont.)

Pests and Application Rates: (Cont.)

<table>
<thead>
<tr>
<th>Pests</th>
<th>Blackhawk (oz/acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>armyworms</td>
<td>1.7 – 3.3</td>
</tr>
<tr>
<td>corn earworm (headworm)</td>
<td></td>
</tr>
<tr>
<td>southwestern corn borer</td>
<td></td>
</tr>
<tr>
<td>webworms</td>
<td></td>
</tr>
</tbody>
</table>

Specific Use Directions:

Application Timing: Scout for armyworms and headworms with enough regularity to monitor egg laying and egg hatch and treat when thresholds are reached. Applications of Blackhawk perform best when timed to coincide with peak egg hatch of each generation.

Application Rate: Apply as a foliar spray at the rate indicated for target pest. Use a higher rate in the rate range for heavy infestations and/or difficult spray coverage situations.

Resistance Management: Do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your local Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:
- Preharvest Interval: Do not apply within 7 days of grain or fodder harvest or within 14 days of forage harvest.
- Do not apply more than a total of 20 oz of Blackhawk (0.45 lb ai spinosad) per acre per year.

Sorghum

Pests and Application Rates:

<table>
<thead>
<tr>
<th>Pests</th>
<th>Blackhawk (oz/acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>armyworms</td>
<td>1.7 – 3.3</td>
</tr>
<tr>
<td>corn earworm (headworm)</td>
<td></td>
</tr>
<tr>
<td>southwestern corn borer</td>
<td></td>
</tr>
<tr>
<td>webworms</td>
<td></td>
</tr>
</tbody>
</table>

Specific Use Directions:

Application Timing: Treat when field counts or crop injury indicates damaging pest populations are present or developing. Time applications to treat
Soybean (Cont.)
small larvae and use sufficient spray volume to ensure good coverage.

Application Rate: Use a higher rate in the rate range for heavy infestations and/or difficult spray coverage situations.

Resistance Management: Do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your local Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:
• Preharvest Interval: Do not apply within 28 days of harvest.
• Do not apply more than a total of 8.3 oz of Blackhawk (0.188 lb ai of spinosad) per acre per year.
• Do not feed treated forage or hay to meat or dairy animals.

Tree Farms or Plantations
Conifers, including Christmas trees, and deciduous trees

Pests and Application Rates:

<table>
<thead>
<tr>
<th>Pests</th>
<th>Blackhawk (oz/acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>lepidopterous larvae, such as:</td>
<td></td>
</tr>
<tr>
<td>bagworm</td>
<td>1.1 – 4.4</td>
</tr>
<tr>
<td>fall webworm</td>
<td></td>
</tr>
<tr>
<td>gypsy moth</td>
<td></td>
</tr>
<tr>
<td>hemlock looper</td>
<td></td>
</tr>
<tr>
<td>jackpine budworm</td>
<td></td>
</tr>
<tr>
<td>pine tip moth</td>
<td></td>
</tr>
<tr>
<td>redhumped caterpillar</td>
<td></td>
</tr>
<tr>
<td>spruce budworm</td>
<td></td>
</tr>
<tr>
<td>tent caterpillar</td>
<td></td>
</tr>
<tr>
<td>tussock moths</td>
<td></td>
</tr>
<tr>
<td>light brown apple moth</td>
<td></td>
</tr>
<tr>
<td>sawfly larvae, such as:</td>
<td></td>
</tr>
<tr>
<td>European pine</td>
<td></td>
</tr>
<tr>
<td>pear</td>
<td></td>
</tr>
<tr>
<td>redheaded pine</td>
<td></td>
</tr>
</tbody>
</table>

Specific Use Directions:

Application Timing: Time applications to reach larvae when small or just hatching. Repeat application as necessary to maintain control. Consult with your Dow AgroSciences representative, state agricultural experiment station, certified pest control advisor or extension specialist for information on application timing for specific pests in your area.

Application Rates: The rate of Blackhawk per acre will depend upon tree size and severity of infestation. Use a higher rate in the rate range for large trees or heavy infestations. Apply in sufficient volume to ensure thorough coverage.

Resistance Management: Do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram and spinosad). If additional treatments are required after 2 consecutive applications of Group 5 insecticides, rotate to another class of effective insecticides for at least one application. Consult your local Dow AgroSciences representative, extension specialist, certified crop advisor, or state agricultural experiment station for information on alternative effective products to use in your area.

Restrictions:
• Do not apply more than a total of 20 oz of Blackhawk (0.45 lb ai of spinosad) per acre per year.

Terms and Conditions of Use

If terms of the following Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. Otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies.

Warranty Disclaimer

Dow AgroSciences warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. Dow AgroSciences MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.
Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Plant injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperature, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Dow AgroSciences or the seller. All such risks shall be assumed by buyer.

Limitation of Remedies

To the extent permitted by law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Dow AgroSciences’ election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used

Dow AgroSciences shall not be liable for losses or damages resulting from handling or use of this product unless Dow AgroSciences is promptly notified of such loss or damage in writing. In no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer, Inherent Risks of Use, and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Dow AgroSciences or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

©TM Trademark of Dow AgroSciences LLC
EPA accepted 09/18/08
For control of lepidopterous larvae (worms or caterpillars), leafminers, and thrips.

Active Ingredient:
spinosad
(a mixture of spinosyn A and spinosyn D)..........................36%
Other Ingredients..................................................64%
Total .................................................................100%

Contains 36% active ingredient on a weight basis.

U.S. Patent No. 5,362,634 and 5,496,931

Keep Out of Reach of Children

For additional Precautionary Statements, Storage and Disposal and other use information see inside this label.

Notice: Read the entire label. Use only according to label directions. Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies at end of label booklet. If terms are unacceptable, return at once unopened.

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994.

EPA Reg. No. 62719-523
900-015839 / 00332211

Agricultural Use Requirements
Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. Refer to the label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

@™Trademark of Dow AgroSciences LLC
Produced for Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, IN 46268

Net Weight 64 oz
Blackhawk™
Naturalyte® Insect Control

For control of lepidopterous larvae (worms or caterpillars), leafminers, and thrips.

| Group | 5 | INSECTICIDE |

Active Ingredient:
spinosad
(a mixture of spinosyn A and spinosyn D) 36%
Other Ingredients 64%
Total 100%

Contains 36% active ingredient on a weight basis.
U.S. Patent No. 5,362,634 and 5,496,931

Keep Out of Reach of Children

Precautionary Statements

**Personal Protective Equipment (PPE)**
Applicators and other handlers must wear:
- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves (such as natural rubber, selection category A)

Follow manufacturer’s instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**User Safety Recommendations**
Users should:
- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Environmental Hazards
This product is toxic to bees exposed to treatment for 3 hours following treatment. Do not apply this pesticide to blooming, pollen-shedding or nectar-producing parts of plants if bees may forage on the plants during this time period. This product is toxic to aquatic invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

**Agricultural Use Requirements**
Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. Refer to the label booklet under “Agricultural Use Requirements” in the Directions for Use section for information about this standard.

**Storage and Disposal**
Do not contaminate water, food, or feed by storage and disposal.

Pesticide Storage: Store in original container only.

Pesticide Disposal: Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Container Handling: Nonrefillable container. Do not reuse or refill this container. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsates into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10

**Storage and Disposal (Cont.)**
seconds after the flow begins to drip. Repeat this procedure two more times. Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Offer for recycling if available.

Refer to label booklet for Directions for Use.

Notice: Read the entire label. Use only according to label directions. Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies at end of label booklet. If terms are unacceptable, return at once unopened.

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994.

EPA Reg. No. 62719-523
EPA Est. 67545-AZ-001

™Trademark of Dow AgroSciences LLC

Produced for
Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, IN 46268

4 x 64 oz